

REMARKSIntroductory Comments

Applicants thank the Examiner for the courtesies extended to their representative, Ms. Christine Orich, during the telephone interview of March 11, 2004.

Claims 1-33 are pending in this application.

By this Amendment, Applicants have amended claims 22 and 27 to place them in condition for allowance, or to put them in better form for appeal. In particular, Applicants have amended independent claim 22 to recite that the coordinating step occurs "during on-line operation of said device" and amended independent claim 27 to recite that the claimed method of reconfiguring occurs "during on-line operation of said field mounted device", that the transferring step involves transferring the claimed second program code to "a second memory area of the data memory circuit", where the second memory area is "deactivated to preclude said computational process to access the second memory area", and to add the step of "activating the second memory area to grant said computational process to access said second memory".

Applicants believe that amended claims 22 and 27 are patentable over the cited references.

Rejections Under 35 U.S.C. § 103(a)

Claims 1-7 and 9-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Narayanaswamy et al. in view of Foster et al. Applicants thank the Examiner for acknowledging that Narayanaswamy et al. does not teach changing from one device configuration to a second device configuration during on-line operation. (Final Office Action, page 3, first paragraph).

In the Final Office Action, the Examiner concludes that Foster et al. provides the missing teachings. However, the Examiner has also acknowledged that Foster et al. requires the device to be placed into a "suspend" mode during reconfiguration. (Final Office Action, page 3, second paragraph).

Applicants respectfully submit that when Foster's device is in "suspend" mode, it is no longer in "on-line operation." Therefore, Foster does not teach changing a device configuration "during on-line operation" as claimed.

Applicants respectfully refer the Examiner to Applicants' specification, wherein the concept of "on-line operation" is explained. On page 4, it is stated that a disadvantage of a

prior art device is that it must be switched "off-line" to perform a reconfiguration, "i.e., it must be put out of operation." (Applicants' specification, p.4 lines 8-11) (emphasis added). This is disadvantageous because the industrial process being monitored by the field mounted device would also have to be shut down. (See Applicants' specification, pp. 3-4).

On page 7, it is stated that, "[s]ince the field mounted device electronics are operational during reconfiguration, the latter can also be carried out while the field mounted device is in operation." (Applicants' specification, p.7 lines 23-26) (emphasis added).

Fig. 3 shows that the computational process task1 and configuration process task2 are running at the same time, "during operation of field mounted device electronics 1." (Applicants' specification, p. 14 lines 19-29). "One advantage of the invention is that the field mounted device can remain in the measurement mode during the reconfiguration of field mounted device electronics 1. ...[M]emory area 151 is active even after the starting of configuration process task2, so that at least the aforementioned computational process task1 can still execute program code C151." (Applicants' specification, page 15 lines 8-17).

In summary, as used by Applicants, the phrase "during on-line operation" means that the field mounted device remains operational and can continue taking measurements.

The same is not true of Foster's "suspend" mode. Applicants respectfully refer the Examiner to the portions of the specification that explain the "suspend" operation taught by Foster.

Column 9 of Foster states that "according to the basic suspend/resume concept, when the system is to be powered down, the exact status of the system is saved in a memory and is maintained through use of a back-up battery until the system is powered-up again, at which point the status is restored and execution resumes from the point at which it was terminated." (Foster et al., col. 9 lines 35-41) (emphasis added). A "RESTORE" instruction must be executed in order to bring the device out of "suspend" mode and resume operation with the next program instruction that would have been executed had it not been interrupted. "The application program thus continues running from the point at which it was interrupted, as though it had not been interrupted." (Foster et al., col. 16 lines 1-15) (emphasis added).

When Foster's device enters "suspend" mode, power is only supplied to the processor, main memory, and RAM, and not any other system components:

"If at some point in time the processor 311 intends to enter a suspend mode, it will actuate the signal SYSPWROFF to the state circuit 401, which will cause the state circuit 401 to transition at 411 to state 408, where it keeps PMVCC on but turns off SYSVCC. Since SYSVCC is used to supply power to

virtually all components other than the processor 311, memory 326, and RAM 331, the power consumption of components normally powered by SYSVCC is reduced to zero. Meanwhile, PMVCC maintains the information in main memory 326 during the suspend mode, and also provides power to the processor 311 and RAM 331 so that it will be able to wake up from the suspend mode. When the processor 311 does wake up from the suspend mode, it...turns the supply SYSVCC back on, thereby repowering the peripheral components of the system so that they can be used again.

(Foster et al., col. 19 line 67- col. 20 line 17) (emphasis added).

In summary, according to Foster's teachings, the device is required to be in "suspend" mode during reconfiguration. Program execution is interrupted while the device is in "suspend" mode, and power is cut off except for that amount needed to maintain the information in memory that is needed to resume program operation. Foster does not disclose, teach or suggest being able to continue to operate the device while it is in "suspend" mode. Therefore, Foster does not teach reconfiguring the device during on-line operation. For at least these reasons, the claims as presently presented are patentable over the combination of Narayanaswamy et al. and Foster et al.

Final Comments

Applicants submit that the application is now in condition for allowance and respectfully request that the same be granted. Applicants request that, if necessary, this Amendment be considered a request for an extension of time for a time appropriate for the amendment to be timely filed. Applicants request that any required fees for filing this Amendment be charged to the account of Bose McKinney & Evans LLP, Deposit Account Number 02-3223.

Respectfully submitted,

BOSE McKINNEY & EVANS



Christine E.M. Orich
Registration No. 44,987

Indianapolis, Indiana
(317) 684-5000

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